

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	("6015456").PN.	USPAT	OR	OFF	2005/02/25 13:10
S2	3526	Fukuda.IN.	USPAT	OR	ON	2005/02/25 13:11
S3	76	Fukuda-Takeshi.IN.	USPAT	OR	ON	2005/02/25 13:19
S4	2	Shido-Ryuichi.IN.	USPAT	OR	ON	2005/02/25 13:21
S5	3	Shido-Ryuichi.IN.	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:21
S6	95	Fukuda-Takeshi.IN.	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:25
S7	8274	"alumina particle?"	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:26
S8	64092	"aspect ratio"	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:26
S9	520	S7 and S8	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:54
S10	30	"flaky alumina"	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:35
S11	4	S9 and S10	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:27
S12	6199	"phosphate ion?"	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:55
S13	51	S7 and S12	US-PGPUB; USPAT; DERWENT	OR	ON	2005/02/25 13:55

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alerts (SDIs) affected  
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alerts (SDIs) affected  
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NEWS 16 JAN 03 No connect-hour charges in EPFULL during January and  
February 2005  
NEWS 17 FEB 25 CA/CAPLUS - Russian Agency for Patents and Trademarks  
(ROSPATENT) added to list of core patent offices covered  
NEWS 18 FEB 10 STN Patent Forums to be held in March 2005  
NEWS 19 FEB 16 STN User Update to be held in conjunction with the 229th ACS  
National Meeting on March 13, 2005

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=> s alumina particle?

260398 ALUMINA

2449 ALUMINAS

260665 ALUMINA

(ALUMINA OR ALUMINAS)

1079225 PARTICLE?

L1 3642 ALUMINA PARTICLE?

(ALUMINA(W) PARTICLE?)

=> s phosphate ion or phosphoric or P2O5

516131 PHOSPHATE

122001 PHOSPHATES

562660 PHOSPHATE

(PHOSPHATE OR PHOSPHATES)

1086935 ION

682127 IONS

1443893 ION

(ION OR IONS)

5984 PHOSPHATE ION

(PHOSPHATE(W) ION)

89223 PHOSPHORIC

2 PHOSPHORICS

89224 PHOSPHORIC

(PHOSPHORIC OR PHOSPHORICS)

63830 P2O5

L2 150881 PHOSPHATE ION OR PHOSPHORIC OR P2O5

=> s L1 and L2

L3 30 L1 AND L2

=> dup rem

ENTER L# LIST OR (END):end

=> dup rem L3

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L4 30 DUP REM L3 (0 DUPLICATES REMOVED)

=> d 1-30 L4

L4 ANSWER 1 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:492223 CAPLUS

DN 139:56636

TI Alumina-based abrasive particles for grinding wheels

IN Rosenflanz, Anatoly Z.; Celikkaya, Ahmet; Anderson, Thomas J.

PA 3M Innovative Properties Company, USA

SO U.S. Pat. Appl. Publ., 32 pp., Cont.-in-part of U.S. Ser. No. 922,526,  
abandoned.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 18

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003115805	A1	20030626	US 2002-211598	20020802
	EP 1432660	A1	20040630	EP 2002-807369	20020802
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
PRAI	US 2001-922526	B2	20010802		
	US 2001-922527	B2	20010802		
	US 2001-922528	B2	20010802		
	US 2001-922530	B2	20010802		
	WO 2002-US24658	W	20020802		

L4 ANSWER 2 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:815538 CAPLUS

DN 139:315648

TI Solid electrolytic capacitors having low ESR

IN Uchi, Hidenori; Ono, Shoji

PA Nippon Chemi-Con Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003297694	A2	20031017	JP 2002-97874	20020329
PRAI	JP 2002-97874		20020329		

L4 ANSWER 3 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:527489 CAPLUS

DN 139:87356

TI Method for producing plate **alumina particle** and its  
application for cosmetics

IN Shibafuji, Ryuichi; Fukuda, Takeshi

PA Y.K.K. Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003192338	A2	20030709	JP 2001-387493	20011220
PRAI	JP 2001-387493		20011220		

L4 ANSWER 4 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:386567 CAPLUS

DN 138:393100

TI Lithographic printing plate support and its use in plate master

IN Tomita, Tadafumi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 40 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003145959	A2	20030521	JP 2001-344821	20011109
PRAI	JP 2001-344821		20011109		

L4 ANSWER 5 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:250837 CAPLUS

DN 138:405510

TI Phosphate Alumina Process by Sol-Gel: Textural and Fractal Properties  
 AU Balankin, A.; Lopez, T.; Alexander-Katz, R.; Cordova, A.; Susarrey, O.;  
 Montiel, R.  
 CS Universidad Autonoma Metropolitana-Iztapalapa A.P. 55-534, Mexico, 09340,  
 Mex.  
 SO Langmuir (2003), 19(9), 3628-3634  
 CODEN: LANGD5; ISSN: 0743-7463  
 PB American Chemical Society  
 DT Journal  
 LA English

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:704740 CAPLUS  
 DN 137:221685

TI Adsorptive removal of **phosphate ions** from water  
 IN Ashitani, Toshio; Takanashi, Hirokazu; Haneno, Tadashi  
 PA Sumitomo Chemical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002263636	A2	20020917	JP 2001-69600	20010313
PRAI	JP 2001-69600		20010313		

L4 ANSWER 7 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:429755 CAPLUS  
 DN 137:130243

TI Oscillation of Interfacial Tension and Spontaneous Interfacial Flow at a  
 Water/Oil Interface Composed of Di(2-ethylhexyl)**phosphoric** Acid  
 AU Shioi, Akihisa; Kumagai, Hiroto; Sugiura, Yusuke; Kitayama, Yosuke  
 CS Department of Chemistry and Chemical Engineering, Yamagata University,  
 Yonezawa, 992-8510, Japan  
 SO Langmuir (2002), 18(14), 5516-5522  
 CODEN: LANGD5; ISSN: 0743-7463

PB American Chemical Society  
 DT Journal  
 LA English

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:21459 CAPLUS  
 DN 134:58297

TI Detergent compositions for removal of particles from surfaces with good  
 rinsing properties comprising aqueous mixtures containing  
**phosphoric** acid salts and polyoxyalkylene ether surfactants  
 IN Tokue, Takashi; Fujioka, Norio  
 PA Toho Chemical Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001003098	A2	20010109	JP 1999-214105	19990624
PRAI	JP 1999-214105		19990624		

L4 ANSWER 9 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:780429 CAPLUS  
 DN 135:305829

TI Flake-like alpha-**alumina particles** and their  
 production  
 IN Fukuda, Takeshi; Shido, Ryuichi  
 PA YKK Corporation, Japan

SO Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1148028	A2	20011024	EP 2001-109347	20010412
	EP 1148028	A3	20040414		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001302452	A2	20011031	JP 2000-114625	20000417
	JP 2002249315	A2	20020906	JP 2001-40237	20010216
	US 2001043910	A1	20011122	US 2001-834651	20010416
PRAI	JP 2000-114625	A	20000417		
	JP 2001-40237	A	20010216		

L4 ANSWER 10 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:634899 CAPLUS

DN 133:225151

TI Manufacture of plate-shaped **alumina particles**

IN Morimura, Takeshi; Aikawa, Kazuo

PA Y.K.K. Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000247634	A2	20000912	JP 1999-48240	19990225
PRAI	JP 1999-48240		19990225		

L4 ANSWER 11 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:380567 CAPLUS

DN 131:10060

TI Surface processing agent for formation of photocatalyst film

IN Hayakawa, Makoto

PA Toto Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11156213	A2	19990615	JP 1997-323690	19971126
PRAI	JP 1997-323690		19971126		

L4 ANSWER 12 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:794889 CAPLUS

DN 130:96321

TI Photocurable polyurethane compositions containing inorg. fine particles with dilatancy for moldings

IN Tamura, Junichi; Hagiwara, Tsuneo; Ozaki, Tatsuhiko; Suzuki, Toshiharu

PA Teijin Seiki Co., Ltd., Japan; Takemoto Oil and Fat Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10330627	A2	19981215	JP 1997-160606	19970603
PRAI	JP 1997-160606		19970603		

L4 ANSWER 13 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:25566 CAPLUS

DN 128:157175

TI Agents and method of forming insulating films having high tensile strength

on steel sheets, and directional electromagnetic steel sheets having same insulating films

IN Fujii, Hiroyasu; Tanaka, Osamu  
PA Nippon Steel Corp., Japan; Nittetsu Plant Setsukei K. K.  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10001779	A2	19980106	JP 1996-152117	19960613
PRAI	JP 1996-152117		19960613		

L4 ANSWER 14 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:213701 CAPLUS

DN 128:248532

TI Shear bond strength of a resin cement to densely sintered high-purity alumina with various surface conditions

AU Awliya, Wedad; Oden, Agneta; Yaman, Peter; Dennison, Joseph B.; Razzoog, Michael E.

CS Department of Cariology, Restorative Sciences, and Endodontics and Department of Prosthodontics, School of Dentistry, University of Michigan, Ann Arbor, MI, USA

SO Acta Odontologica Scandinavica (1998), 56(1), 9-13

CODEN: AOSCAQ; ISSN: 0001-6357

PB Scandinavian University Press

DT Journal

LA English

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:224125 CAPLUS

DN 126:213977

TI Manufacture of **alumina particles** having high dispersibility and plasticity

IN Fukuda, Takeshi; Shido, Ryuichi

PA YKK Corporation, Japan; Kinsei Matec Co., Ltd.

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 761600	A1	19970312	EP 1996-111646	19960718
	EP 761600	B1	20050112		
	R: DE, FR, GB				
	JP 09059018	A2	19970304	JP 1995-237882	19950824
	JP 09142836	A2	19970603	JP 1995-322411	19951117
PRAI	JP 1995-237882	A	19950824		
	JP 1995-322411	A	19951117		

L4 ANSWER 16 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:289312 CAPLUS

DN 124:350068

TI Preparation of highly concentrated alumina suspension through investigation of proton adsorption density

AU Kim, Duk-Jun; Kim, Hwan

CS Dep. Inorg. Mater. Eng., Seoul Nat. Univ., S. Korea

SO Yoop Hakhoechi (1996), 33(2), 163-168

CODEN: YPHJAP; ISSN: 0372-7807

PB Korean Ceramic Society

DT Journal

LA Korean

L4 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:974047 CAPLUS

DN 124:88127

TI Manufacture of ethylene glycol slurries containing particles of aluminum  
oxides for manufacture of abrasion-resistant films and fibers  
IN Oohashi, Hideto; Nishino, Yasuhiro; Konagaya, Juji  
PA Toyo Boseki, Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07247347	A2	19950926	JP 1994-40915	19940311
PRAI	JP 1994-40915		19940311		

L4 ANSWER 18 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1995:560100 CAPLUS  
DN 122:318253  
TI Preparation of uniformly dispersed MoP/Al<sub>2</sub>O<sub>3</sub> catalysts  
AU Jian, M.; Prins, R.  
CS Laboratory for Technical Chemistry, Swiss Federal Institut of Technology,  
Zurich, 8092, Switz.  
SO Bulletin des Societes Chimiques Belges (1995), 104(4-5), 231-6  
CODEN: BSCBAG; ISSN: 0037-9646  
PB Societe Chimique Belges  
DT Journal  
LA English

L4 ANSWER 19 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1996:80275 CAPLUS  
DN 124:211903  
TI Effect of hydroxyapatite microcrystals on macrophage activity  
AU Fukuchi, Noriyuki; Akao, Masaru; Sato, Atsushige  
CS Institute Medical and Dental Engineering, Tokyo Medical and Dental  
University, Chiyoda, 101, Japan  
SO Bio-Medical Materials and Engineering (1995), 5(4), 219-31  
CODEN: BMENEO; ISSN: 0959-2989  
PB Elsevier  
DT Journal  
LA English

L4 ANSWER 20 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1993:174264 CAPLUS  
DN 118:174264  
TI Interaction of phosphate ester dispersants with calcined alumina  
AU Hudson, G. F.; Andrews, M. M.; Raghavan, S.  
CS Dep. Mater. Sci. Eng., Univ. Arizona, Tucson, AZ, USA  
SO Colloid and Polymer Science (1993), 271(1), 56-62  
CODEN: CPMSB6; ISSN: 0303-402X  
DT Journal  
LA English

L4 ANSWER 21 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1992:621985 CAPLUS  
DN 117:221985  
TI Lattice images of crystalline anodic alumina formed on a ridged aluminum  
substrate  
AU Ono, Sachiko; Ichinose, Hideki; Masuko, Noboru  
CS Inst. Ind. Sci., Univ. Tokyo, Tokyo, 106, Japan  
SO Journal of the Electrochemical Society (1992), 139(9), L80-L81  
CODEN: JESOAN; ISSN: 0013-4651  
DT Journal  
LA English

L4 ANSWER 22 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1992:109519 CAPLUS  
DN 116:109519  
TI Agglomerated activated **alumina particles**, and their  
manufacture  
IN Chopin, Thierry; Fourre, Patrick; Jaeger, Philippe; Taxil, Bernard  
PA Rhone-Poulenc Chimie SA, Fr.



SO Fr. Demande, 26 pp.

CODEN: FRXXBL

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	FR 2658806	A1	19910830	FR 1990-2273	19900223
	FR 2658806	B1	19920522		
	EP 449672	A1	19911002	EP 1991-400331	19910212
	EP 449672	B1	19970723		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 155761	E	19970815	AT 1991-400331	19910212
	ES 2106062	T3	19971101	ES 1991-400331	19910212
	CA 2036682	AA	19910824	CA 1991-2036682	19910220
	CA 2036682	C	19990323		
	JP 05237376	A2	19930917	JP 1991-48720	19910222
	US 5210063	A	19930511	US 1992-818904	19920110
	US 5637547	A	19970610	US 1995-531895	19950922
	JP 10059712	A2	19980303	JP 1997-106786	19970410
	JP 3080899	B2	20000828		
PRAI	FR 1990-2273	A	19900223		
	JP 1991-48720	A3	19910222		
	US 1991-659881	B1	19910225		
	US 1992-818904	A2	19920110		
	US 1992-932945	B2	19920915		
	US 1995-370219	B1	19950109		
OS	MARPAT 116:109519				

L4 ANSWER 23 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:170350 CAPLUS

DN 114:170350

TI Auto exhaust gas catalyst composition having low emissions of hydrogen sulfide

IN Ernest, Michael Vance

PA W. R. Grace and Co., USA

SO Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 387611	A1	19900919	EP 1990-103938	19900301
	R: DE, FR, GB, IT				
	US 4977129	A	19901211	US 1989-322444	19890313
	ZA 9001477	A	19901228	ZA 1990-1477	19900227
	JP 02280835	A2	19901116	JP 1990-56778	19900309
PRAI	US 1989-322444	A	19890313		

L4 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:88954 CAPLUS

DN 112:88954

TI Removing aluminum compounds from solid surfaces by etching

IN Sulovsky, Juraj; Kvapil, Jiri

PA Czech.

SO Czech., 5 pp.

CODEN: CZXXA9

DT Patent

LA Czech

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	CS 253693	B1	19871217	CS 1986-3104	19860429
PRAI	CS 1986-3104		19860429		

L4 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1989:445081 CAPLUS

DN 111:45081

TI Surface-treated silicate-coated mineral particles for dentifrices or

flame-retardants for reducing the adsorption of halide ions and free radicals

IN Musselman, Lawrence L.; Wieserman, Larry F.  
PA Aluminum Co. of America, USA  
SO U.S., 4 pp.  
CODEN: USXXAM

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4781982	A	19881101	US 1987-126244	19871127
PRAI	US 1987-126244		19871127		

L4 ANSWER 26 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1986:209469 CAPLUS  
DN 104:209469

TI **Alumina particles** having excellent abrasion resistance  
IN Ogata, Masamitsu; Masuda, Tatsuo; Ida, Takanori; Sato, Goro  
PA Catalysts and Chemicals Industries Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61036120	A2	19860220	JP 1984-154129	19840726
PRAI	JP 1984-154129		19840726		

L4 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1980:645404 CAPLUS  
DN 93:245404

TI Development of a hemoperfusion system for phosphate removal  
AU Sideman, S.; Hoffer, E.; Better, O. S.; Lupovitch, S.  
CS Technion Israel Inst. Technol., Haifa, Israel  
SO Hemoperfusion: Kidney Liver Support Detoxif., [Proc. Int. Symp.] (1980), Meeting Date 1979, Volume 1, 81-90. Editor(s): Sideman, S.; Chang, Thomas Ming Swi. Publisher: Hemisphere, Washington, D. C.  
CODEN: 43ZRAD

DT Conference  
LA English

L4 ANSWER 28 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1979:210070 CAPLUS  
DN 90:210070

TI Biocompatibility studies of hemoperfusion systems for liver and kidney support  
AU Sideman, S.; Hoffer, E.; Mor, L.; Brandes, J. M.; Rousseau, I.; Better, O.; Ben-Arie, D.; Lupovitch, S.  
CS Sch. Med., Technion-Israel Inst. Technol., Haifa, Israel  
SO Artif. Kidney, Artif. Liver, Artif. Cells, [Proc. McGill Artif. Organs Res. Unit Int. Symp.] (1978), Meeting Date 1977, 173-82. Editor(s): Chang, Thomas Ming Swi. Publisher: Plenum, New York, N. Y.  
CODEN: 40FNAI

DT Conference  
LA English

L4 ANSWER 29 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1977:453867 CAPLUS  
DN 87:53867

TI Poly(fatty acids) and fatty acid-maleic anhydride adducts  
IN Suzuki, Osamu; Tanabe, Keizo; Hashimoto, Tetsutarto  
PA Agency of Industrial Sciences and Technology, Japan  
SO Ger. Offen., 28 pp.  
CODEN: GWXXBX

DT Patent  
LA German

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	DE 2635328	A1	19770602	DE 1976-2635328	19760805
	JP 52062218	A2	19770523	JP 1975-138198	19751119
PRAI	JP 1975-138198	A	19751119		

L4 ANSWER 30 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1978:94788 CAPLUS  
 DN 88:94788  
 TI Selective removal of **phosphate ions** from the blood of uremic patients  
 AU Sideman, Samuel; Hoffer, Erica; Better, O. S.; Lupovitch, S.  
 CS Dep. Chem. Eng., Technion Israel Inst. Technol., Haifa, Israel  
 SO Artif. Organs, Proc. Semin. (1977), Meeting Date 1976, 291-9. Editor(s): Kenedi, Robert M.; Courtney, James M.; Gaylor, John D. S. Publisher: Univ. Park Press, Baltimore, Md.  
 CODEN: 37DGAN  
 DT Conference  
 LA English

=> d hist

(FILE 'HOME' ENTERED AT 12:53:55 ON 27 FEB 2005)

FILE 'CAPLUS' ENTERED AT 12:56:28 ON 27 FEB 2005

L1 3642 S ALUMINA PARTICLE?  
 L2 150881 S PHOSPHATE ION OR PHOSPHORIC OR P2O5  
 L3 30 S L1 AND L2  
 L4 30 DUP REM L3 (0 DUPLICATES REMOVED)

=> s aspect ratio

72586 ASPECT  
 194946 ASPECTS  
 263825 ASPECT  
 (ASPECT OR ASPECTS)  
 1044136 RATIO  
 284679 RATIOS  
 1236959 RATIO  
 (RATIO OR RATIOS)  
 L5 22070 ASPECT RATIO  
 (ASPECT(W)RATIO)

=> s L1 and L5

L6 29 L1 AND L5

=> s L6 and L2

L7 2 L6 AND L2

=> d 1-2 IBIB ABS

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:780429 CAPLUS  
 DOCUMENT NUMBER: 135:305829  
 TITLE: Flake-like alpha-**alumina particles** and their production  
 INVENTOR(S): Fukuda, Takeshi; Shido, Ryuichi  
 PATENT ASSIGNEE(S): YKK Corporation, Japan  
 SOURCE: Eur. Pat. Appl., 13 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1148028	A2	20011024	EP 2001-109347	20010412
EP 1148028	A3	20040414		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

JP 2001302452	A2	20011031	JP 2000-114625	20000417
JP 2002249315	A2	20020906	JP 2001-40237	20010216
US 2001043910	A1	20011122	US 2001-834651	20010416
PRIORITY APPLN. INFO.:			JP 2000-114625	A 20000417
			JP 2001-40237	A 20010216

AB Flake-like  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles having an average major diameter of 0.5-25  $\mu$ m and an **aspect ratio**, expressed by particle major diameter/average thickness, of greater than 50 to 2000 and having a thin flat form. The flake-like  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles are produced by a hydrothermal synthesis process of an aqueous slurry in which the slurry comprises an alumina hydrate and/or an alumina gel, having a particle size of  $\leq 2 \mu$ m and a maximum size of  $\leq 5.0 \mu$ m and **phosphoric** acid ions in an amount of  $1.0 \times 10^{-3}$  to  $1.0 \times 10^{-1}$  mol per mol of the alumina hydrate and/or alumina gel. The flake-like  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles exhibit good dispersibility during mixing as fillers or pigments in rubbers or plastics or as coating agents with a resin and also can be easily dispersed as primary particles in an aqueous solvent with high dispersion stability when added to an aqueous slurry of precision abrasives or cosmetics. The particles are desirable in providing cosmetics with good smoothness, tackiness to the skin and spreadability.

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:224125 CAPLUS  
DOCUMENT NUMBER: 126:213977  
TITLE: Manufacture of **alumina particles**  
having high dispersibility and plasticity  
INVENTOR(S): Fukuda, Takeshi; Shido, Ryuichi  
PATENT ASSIGNEE(S): YKK Corporation, Japan; Kinsei Matec Co., Ltd.  
SOURCE: Eur. Pat. Appl., 11 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 761600	A1	19970312	EP 1996-111646	19960718
EP 761600	B1	20050112		
R: DE, FR, GB				
JP 09059018	A2	19970304	JP 1995-237882	19950824
JP 09142836	A2	19970603	JP 1995-322411	19951117
PRIORITY APPLN. INFO.:			JP 1995-237882	A 19950824
			JP 1995-322411	A 19951117

AB **Alumina particles** having high dispersibility and plasticity and having **phosphoric** acid or phosphate at least on the surface are manufactured by adding a crystallization inhibitor containing at least **phosphate ion** to aluminum hydroxide or alumina hydrate having particle size of 0.1-5.0  $\mu$ m and then conducting a hydrothermal synthesis treatment at  $\geq 350^\circ$  under a pressure of 50-200 atmospheric and at a temperature elevation rate of (0.3-5)  $^\circ$ C/min. The products are suitable for use as a material for pigments for paints, precision abrasives or ceramics. The amount of the **phosphate ion** to be added is  $(3.0-25) \times 10^{-3}$  mol per mol of aluminum hydroxide or alumina hydrate. The obtained alumina is  $\alpha$ -alumina hexagonal plate single crystal having a particle size of 0.2-15  $\mu$ m, an **aspect ratio** of 15-50.

=> d hist

(FILE 'HOME' ENTERED AT 12:53:55 ON 27 FEB 2005)

FILE 'CAPLUS' ENTERED AT 12:56:28 ON 27 FEB 2005

L1 3642 S ALUMINA PARTICLE?  
L2 150881 S PHOSPHATE ION OR PHOSPHORIC OR P2O5  
L3 30 S L1 AND L2  
L4 30 DUP REM L3 (0 DUPLICATES REMOVED)  
L5 22070 S ASPECT RATIO

L6 29 S L1 AND L5  
L7 2 S L6 AND L2

=> s aspect ration greater than 50

72586 ASPECT  
194946 ASPECTS  
263825 ASPECT  
(ASPECT OR ASPECTS)  
19223 RATION  
12174 RATIONS  
27279 RATION  
(RATION OR RATIONS)  
561437 GREATER  
1 GREATERS  
561438 GREATER  
(GREATER OR GREATERS)  
3080383 THAN  
13 THANS  
3080390 THAN  
(THAN OR THANS)  
1752344 50

L8 0 ASPECT RATION GREATER THAN 50  
(ASPECT (W) RATION (W) GREATER (W) THAN (W) 50)

=> s aspect ratio higher

72586 ASPECT  
194946 ASPECTS  
263825 ASPECT  
(ASPECT OR ASPECTS)  
1044136 RATIO  
284679 RATIOS  
1236959 RATIO  
(RATIO OR RATIOS)  
1487717 HIGHER  
12 HIGHERS  
1487723 HIGHER  
(HIGHER OR HIGHERS)

L9 19 ASPECT RATIO HIGHER  
(ASPECT (W) RATIO (W) HIGHER)

=> d 1-29 L6 IBIB ABS

L6 ANSWER 1 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:942419 CAPLUS  
TITLE: Heater for cathode ray tube  
INVENTOR(S): Won, Byeong Muk  
PATENT ASSIGNEE(S): Lg Electronics Inc., S. Korea  
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given  
CODEN: KRXXA7  
DOCUMENT TYPE: Patent  
LANGUAGE: Korean  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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KR 2002082363	A	20021031	KR 2001-21766	20010423
PRIORITY APPLN. INFO.:			KR 2001-21766	20010423

AB A heater for cathode ray tube is provided to prevent a crack of an alumina insulating layer and lengthen a lifetime of the heater by forming an insulating layer including acicular **alumina particles**. An insulating layer is coated on a surface of a heater. Acicular **alumina particles** are included in the inside of the insulating layer. The content of the acicular **alumina particles** included in the inside of the insulating layer corresponds to 50 or more percent of the volume of total **alumina particles**. An **aspect ratio** of a short axis and a long axis of the acicular **alumina particle** is 5.0 or more, at least. A mean size of the acicular **alumina particle** is 5.0 to 10.0 micro meter on the basis of the long axis.

The acicular **alumina particles** having sizes of 1.0 to 20.0 micro meter corresponds to 90 percent of the volume of the total acicular **alumina particles** on the basis of the long axis.

L6 ANSWER 2 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:589497 CAPLUS

DOCUMENT NUMBER: 141:91292

TITLE: Process for the production of ultrafine plate-like **alumina particles**

INVENTOR(S): Robinson, John Sydney; Cukrov, Lara Michelle; Tsuzuki, Takuya; Lee, David Andrew; McCormick, Paul Gerard

PATENT ASSIGNEE(S): Advanced Nano Technologies Pty Ltd., Australia

SOURCE: PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060804	A1	20040722	WO 2004-AU5	20040106
W:	AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GH, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ			

PRIORITY APPLN. INFO.: AU 2003-900030 A 20030107

AB A process for producing plate-like **alumina particles** with a high **aspect ratio** is described. Nano-sized particles of an aluminum precursor compound, optionally formed by milling, are mixed with a sufficient volume fraction of a diluent and heat treated to form substantially discrete plate-like alpha **alumina particles** dispersed in the diluent. A mineralizer may be added to lower the effective m.p. of the system. Substantially discrete plate-like particles may be formed without agitation when the heat treatment is conducted below the m.p. of the diluent.

L6 ANSWER 3 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:727589 CAPLUS

DOCUMENT NUMBER: 139:356528

TITLE: A theoretical evaluation of hydrodynamic and brush contact effects on particle removal during brush scrubbing

AUTHOR(S): Burdick, G. M.; Berman, N. S.; Beaudoin, S. P.

CORPORATE SOURCE: Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ, 85287-6006, USA

SOURCE: Journal of the Electrochemical Society (2003), 150(10), G658-G665

CODEN: JESOAN; ISSN: 0013-4651

PUBLISHER: Electrochemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Wafer cleaning following chemical mech. planarization, especially brush scrubbing, is a critical step in semiconductor device manufacture that is not adequately understood. In this work, the effects of hydrodynamic forces, brush-particle adhesion, and brush-particle momentum transfer are quantified for spheroidal particles having **aspect ratios** ranging from 0.2 to 5. A critical particle Reynolds number approach was used to determine the effect of the hydrodynamic force and brush-particle adhesion on particle removal, while a moment balance approach was used to assess the effect of brush-particle momentum transfer on particle removal. Model systems of **alumina particles** adhering to and embedded in polished silicon dioxide and copper surfaces are considered. Results indicate that, in general, hydrodynamic forces can remove the majority of **alumina particles** adhering to silicon dioxide and copper, but if a particle becomes partially embedded in a surface, the

addition of brush-particle adhesion and brush-particle momentum transfer may not be sufficient to cause particle removal.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:606203 CAPLUS

DOCUMENT NUMBER: 137:155799

TITLE: Biaxially stretched laminated thermoplastic films with good mechanical properties and thermal dimensional stability

INVENTOR(S): Nakamori, Yukari; Tsunekawa, Tetsuya; Maekawa, Shigetoshi

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002225198	A2	20020814	JP 2001-23384	20010131
PRIORITY APPLN. INFO.:			JP 2001-23384	20010131

AB The films, useful for magnetic recording tapes, etc., comprise (A) layers containing thermoplastic polymers and 1-80% platy inert particles with **aspect ratio** (D/dt) 3-100 (D = average particle size in the plate direction, dt = average thickness in the vertical direction) and (B) layers containing thermoplastic polymers. Thus, a 4:2  $\mu\text{m}$  laminated film comprising a layer containing PET and 30% platy **alumina particles** (Serath) with average particle size 0.3  $\mu\text{m}$  and a layer containing PET was biaxially stretched resulting in thermal shrinkage 1.3 and 1.1% in the machine direction (MD) and transverse direction (TD), resp. and Young's modulus of elasticity 8.1 and 6.8 Gpa, in MD and TD, resp. The laminated film was coated with a magnetic coating to give a magnetic tape with good durability.

L6 ANSWER 5 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:94370 CAPLUS

DOCUMENT NUMBER: 136:155053

TITLE: Polishing sheets for precision polishing of articles made of different materials

INVENTOR(S): Fukuda, Takeshi; Murafuji, Ryuichi

PATENT ASSIGNEE(S): Y.K.K. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002036128	A2	20020205	JP 2000-228169	20000728
PRIORITY APPLN. INFO.:			JP 2000-228169	20000728

AB The title polishing sheets consist of a substrate and a polishing layer consisting of plate-like Al<sub>2</sub>O<sub>3</sub> particles, soft abrasive particles, and a binder, where the **alumina particles** have average particle size 0.2-20  $\mu\text{m}$ , and **aspect ratio** 3-200. Preferably, the Al<sub>2</sub>O<sub>3</sub> particles are  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> (or corundum) particles, and the soft abrasives particles are SiO<sub>2</sub> particles.

L6 ANSWER 6 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:820338 CAPLUS

DOCUMENT NUMBER: 136:23918

TITLE: Anisotropic grain growth in "ultra-pure"  $\alpha$ -alumina caused by lanthanum doping

AUTHOR(S): Dakschobler, A.; Ceh, M.; Kosmac, T.

CORPORATE SOURCE: "Jozef Stefan" Institute, Ljubljana, 1000, Slovenia

SOURCE: Key Engineering Materials (2002), 206-213(Pt. 1, Euro Ceramics VII), 441-444  
 CODEN: KEMAAY; ISSN: 1013-9826  
 PUBLISHER: Trans Tech Publications Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The effect of La addns. on the grain growth of alumina was investigated. Dilute aqueous AKP 53 alumina suspensions were prepared with the addition of an anionic dispersant, to which  $\leq 2400$  ppm (with respect to the solid) of La in the form of La-acetate solution was added. The chelating ability of the dispersant resulted in a homogeneous distribution of La ions on the surface of the **alumina particles**. After drying, the powders were uniaxially pressed into pellets and then cold isostatically pressed. After sintering at  $1520^\circ$  for 4 h a highly anisotropic microstructure with grains of  $\leq 100 \mu\text{m}$  and **aspect ratios** of  $\leq 10$  were obtained. STEM anal. of the grain boundaries revealed an  $\approx 3$ -nm thick grain-boundary layer rich in silica and La.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. 'ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:788624 CAPLUS  
 DOCUMENT NUMBER: 135:346488  
 TITLE: Manufacture of  $\alpha$ - **alumina particles** and their uses  
 INVENTOR(S): Uchida, Yoshio; Watanabe, Takashi  
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001302236	A2	20011031	JP 2000-123986	20000425
PRIORITY APPLN. INFO.:			JP 2000-123986	20000425

AB Aluminum hydroxide having  $\geq 99.9$  mass% purity and  $\geq 450^\circ$  dehydration temperature is sintered at  $800$ - $1200^\circ$  in the presence of heating medium selected from HCl, mixture of mol. chlorine and steam, and mol. chlorine to produce  $\alpha$ - **alumina particles**. The  $\alpha$ - **alumina particles** have polyhedral form, **aspect ratio**.ltoreq.3, D90/D10  $\leq 5$  where D90 and D10 are 90% and 10% of the accumulative particle distribution counted from the smaller particle size, average primary particle diameter 30-1000 $\mu\text{m}$ , an  $d \geq 99.9$  mass%. The  $\alpha$ - **alumina particles** are useful for polishing materials.

L6 ANSWER 8 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:780429 CAPLUS  
 DOCUMENT NUMBER: 135:305829  
 TITLE: Flake-like alpha-**alumina particles** and their production  
 INVENTOR(S): Fukuda, Takeshi; Shido, Ryuichi  
 PATENT ASSIGNEE(S): YKK Corporation, Japan  
 SOURCE: Eur. Pat. Appl., 13 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1148028	A2	20011024	EP 2001-109347	20010412
EP 1148028	A3	20040414		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

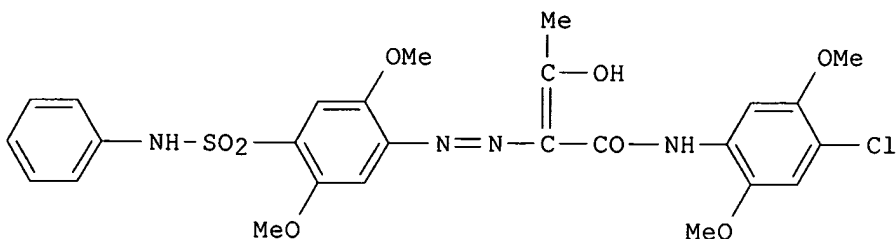


JP 2001302452	A2	20011031	JP 2000-114625	20000417
JP 2002249315	A2	20020906	JP 2001-40237	20010216
US 2001043910	A1	20011122	US 2001-834651	20010416
PRIORITY APPLN. INFO.:			JP 2000-114625	A 20000417
			JP 2001-40237	A 20010216

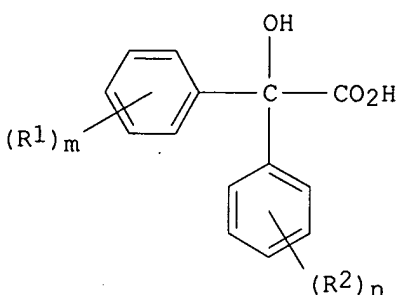
AB Flake-like  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles having an average major diameter of 0.5-25  $\mu$ m and an **aspect ratio**, expressed by particle major diameter/average thickness, of greater than 50 to 2000 and having a thin flat form. The flake-like  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles are produced by a hydrothermal synthesis process of an aqueous slurry in which the slurry comprises an alumina hydrate and/or an alumina gel, having a particle size of  $\leq 2 \mu$ m and a maximum size of  $\leq 5.0 \mu$ m and phosphoric acid ions in an amount of  $1.0 \times 10^{-3}$  to  $1.0 \times 10^{-1}$  mol per mol of the alumina hydrate and/or alumina gel. The flake-like  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles exhibit good dispersibility during mixing as fillers or pigments in rubbers or plastics or as coating agents with a resin and also can be easily dispersed as primary particles in an aqueous solvent with high dispersion stability when added to an aqueous slurry of precision abrasives or cosmetics. The particles are desirable in providing cosmetics with good smoothness, tackiness to the skin and spreadability.

L6 ANSWER 9 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:760398 CAPLUS  
 DOCUMENT NUMBER: 135:325225  
 TITLE: Electrophotographic yellow toner with improved color reproduction, charging stability, offset-resistance, and low-temperature-fixability  
 INVENTOR(S): Iida, Yasushi; Kamibayashi, Makoto; Kaya, Takaaki; Kondo, Katsumi  
 PATENT ASSIGNEE(S): Canon Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001290310	A2	20011019	JP 2000-107513	20000410
PRIORITY APPLN. INFO.:			JP 2000-107513	20000410
OTHER SOURCE(S):	MARPAT	135:325225		
GI				



I



II

AB The title electrophotog. yellow toner comprises polyester binders having an acid value of 2.0-50 mgKOH/g, a yellow colorant C.I. Pigment Yellow 97 represented by I, and a benzilic acid aluminum complex including II (R1, R2 = alkyl, alkenyl, alkoxy, halo, nitro, cyano, amino, carboxyl, OH; m, n = 0-5). The yellow colorant has an **aspect ratio** of  $\leq 3$ , and a number average particle size of 0.1-0.5  $\mu\text{m}$ . The toner may contain hydrophobic Ti oxide or **alumina particles** with a primary particle size of 1-200 nm. The toner has a weigh average particle size of 4-10  $\mu\text{m}$ .

L6 ANSWER 10 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:738275 CAPLUS  
DOCUMENT NUMBER: 135:277756  
TITLE: Cosmetic makeups containing pigment composites  
INVENTOR(S): Ogawa, Katsumoto; Yoshikawa, Yoshinobu; Takada, Sadaki; Ono, Kazuhisa  
PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001278743	A2	20011010	JP 2000-91613	20000329
PRIORITY APPLN. INFO.:			JP 2000-91613	20000329

AB This invention relates to cosmetic makeup compns. to give natural looks, while effectively concealing uneven skin colors. The compns. comprise iron oxide-coated disk-shaped **alumina particles** which are characterized by having an average diameter 0.1-50  $\mu\text{m}$  and **aspect ratio** of 3-50. Alumina (average diameter 30  $\mu\text{m}$ , **aspect ratio** 20) was suspended in water and an aqueous solution containing  $\text{FeCl}_2 \cdot 4\text{H}_2\text{O}$  was added. The mixture was heated and treated with NaOH solution, finally precipitate was filtered out, sintered, and pulverized to give yellow iron oxide-coated alumina. The resulting pigment was used in formulating powder foundations.

L6 ANSWER 11 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:340405 CAPLUS  
DOCUMENT NUMBER: 134:343070  
TITLE: Influence of reinforcement geometry on the mechanical behaviour of multi-phase materials  
AUTHOR(S): Meijer, G.; Ellyin, F.  
CORPORATE SOURCE: University of Alberta, Edmonton, AB, T6G 2G8, Can.  
SOURCE: Progress in Mechanical Behaviour of Materials, Proceedings of the International Conference on the Mechanical Behaviour of Materials, 8th, Victoria, BC, Canada, May 16-21, 1999 (1999), Volume 3, 840-844. Editor(s): Ellyin, Fernand; Provan, James W. University of Victoria, Department of Mechanical Engineering: Victoria, B. C.  
CODEN: 69BHH2  
DOCUMENT TYPE: Conference  
LANGUAGE: English  
AB Many engineering materials consist of one or more reinforcement phases dispersed in a matrix material having significantly different material properties. This paper examines the influence the effect of inclusion geometry on the global behavior of a multi-phase material using finite element anal. The stress-strain relationships for 20% Al<sub>2</sub>O<sub>3</sub> Al 6061 are compared for unit cell models containing sphere and cube shaped particles of various **aspect ratios**. It is found that cube inclusions lead to much greater work hardening and therefore a higher offset yield stress. A min. yield stress occurs at an inclusion **aspect ratio** of 0.85 with increasing values on either side of this min. The trends outlined in this study may be applied to any multiphase material having a matrix with stiff reinforcement particles.  
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2001:191563 CAPLUS  
DOCUMENT NUMBER: 134:356384  
TITLE: Preparation of platelike nano alpha **alumina particles**  
AUTHOR(S): Wu, Y.-q.; Zhang, Y.-f.; Huang, X.-x.; Guo, J.-k.  
CORPORATE SOURCE: State Key Lab of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, 200050, Peop. Rep. China  
SOURCE: Ceramics International (2001), 27(3), 265-268  
CODEN: CINNDH; ISSN: 0272-8842  
PUBLISHER: Elsevier Science Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB A novel synthesis process has been developed for producing high-purity nonagglomerated nano-size platelike  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles. The process mainly utilizes a seed-effect of fine  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> grains, worn from the milling mediums and uniformly mixed with the hydrous alumina during grinding, and also utilizes ZnF<sub>2</sub> additive to reduce the transformation temperature and modify the **alumina particle** shape. The **aspect ratio** and the average size of Al<sub>2</sub>O<sub>3</sub> particles prepared at 900°C for 1 h is 2-4 and 40 nm, resp.  
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2000:901768 CAPLUS  
DOCUMENT NUMBER: 134:104607  
TITLE: Preparation of mullite by the reaction sintering of kaolinite and alumina  
AUTHOR(S): Chen, C. Y.; Lan, G. S.; Tuan, W. H.  
CORPORATE SOURCE: Institute of Materials Science and Engineering, National Taiwan University, Taipei, 106, Taiwan  
SOURCE: Journal of the European Ceramic Society (2000), 20(14-15), 2519-2525  
CODEN: JECSER; ISSN: 0955-2219  
PUBLISHER: Elsevier Science Ltd.  
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Mullite specimens and mullite/alumina composites are prepared by reaction sintering kaolinite and alumina at a temperature above 1000°C. The phase and microstructural evolution of the specimens and their mech. properties are investigated. Primary mullite appears at a temperature around 1200°C. The **alumina particles** are inert to the formation of primary mullite. Alumina starts to react with the silica in glassy phase to form secondary mullite above 1300°C. The formation of secondary mullite decreases the amount of glassy phase. Furthermore, the addition of alumina reduces the size of mullite grains and their **aspect ratio**. The strength and toughness of the resulting mullite increase with the increase of alumina content; however, the mech. properties of the mullite and mullite/alumina composites are lower than those of alumina for their relatively low d.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 14 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:732940 CAPLUS  
DOCUMENT NUMBER: 133:311481  
TITLE: Manufacture of **alumina particles**  
INVENTOR(S): Morimura, Takeshi  
PATENT ASSIGNEE(S): Y.K.K. Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000290013	A2	20001017	JP 1999-100077	19990407
PRIORITY APPLN. INFO.:			JP 1999-100077	19990407

AB Aluminate and acidic aluminum salt is reacted in the presence of water to give a blend of alumina and/or alumina hydrate and neutralized metal salt, and the blend is sintered at 1000-1600° to give the final plated product having average particle diameter 0.2-100 µm, thickness 3 µm, and **aspect ratio** (particle diameter/thickness) ≥5. Plate-shaped **alumina particles** which do not have cohesion but have sharp particle size distribution and smooth surface are manufactured

L6 ANSWER 15 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:530710 CAPLUS  
DOCUMENT NUMBER: 131:172265  
TITLE: Spindle basic aluminum carbonate particles and their manufacture, spindle amorphous **alumina particle**, spindle γ- **alumina particle**, and their uses  
INVENTOR(S): Komatsu, Yoshinobu; Kondo, Masami; Ohe, Kenichi  
PATENT ASSIGNEE(S): Mizusawa Industrial Chemicals, Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11228132	A2	19990824	JP 1998-44273	19980212
PRIORITY APPLN. INFO.:			JP 1998-44273	19980212

AB Aqueous solns. of polyaluminum chloride at basicity 40-60 are mixed with (NH)4HCO3 at 30-75° to give spindle basic Al ammonium carbonate particles. The spindle amorphous **alumina particles** contain ≥50 weight% of Al2O3, and have BET sp. surface area 100-1000 m2/g, and **aspect ratio** 1-8. The spindle γ- **alumina particles** have BET sp. surface area 50-700 m2/g and **aspect ratio** 1-8.

L6 ANSWER 16 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:147649 CAPLUS  
DOCUMENT NUMBER: 130:184519  
TITLE: Manufacture of **alumina particles**  
by continuous hydrothermal reaction  
INVENTOR(S): Yamazaki, Nakamichi; Fukuda, Takeshi; Morimura,  
Takeshi  
PATENT ASSIGNEE(S): Y.K.K. Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11060237	A2	19990302	JP 1997-225128	19970821
PRIORITY APPLN. INFO.:			JP 1997-225128	19970821

AB In the manufacture of **alumina particles** from slurry prepared from aluminum hydroxide or aluminum hydrate in water or alkali solution where the slurry is supplied to the system at above the saturated vapor pressure and at below the saturated steam temperature and the water is at a temperature above the saturated steam atmospheric and at above the saturated vapor pressure, the conditions of temperature and pressure are  $\geq 350^{\circ}$  and  $\geq 50$  kg(force)/cm<sup>2</sup>, resp., and the slurry concentration is 1-50 weight%. The raw materials are spray-mixed, and the reaction product is washed, filtered, and fired to produce **alumina particles** having a particle diameter 0.2-1  $\mu$ m and an **aspect ratio** 1-50.

L6 ANSWER 17 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:550471 CAPLUS  
DOCUMENT NUMBER: 129:190071  
TITLE: Stereolithographic resin compositions with high heat  
heat resistance, flexural modulus, and dimensional  
stability  
INVENTOR(S): Tamura, Yorikazu; Hagiwara, Tsuneo  
PATENT ASSIGNEE(S): Teijin Seiki Co., Ltd., Japan  
SOURCE: PCT Int. Appl., 42 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9834987	A1	19980813	WO 1998-JP367	19980129
W: US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 10279819	A2	19981020	JP 1998-18067	19980113
EP 909793	A1	19990421	EP 1998-901041	19980129
R: DE				
US 6203966	B1	20010320	US 1998-155783	19981002
PRIORITY APPLN. INFO.:			JP 1997-35690	A 19970205
			WO 1998-JP367	W 19980129

AB The title compns. contain (A) 5-65 volume% fine **alumina particles** having an average particle diameter 3-70  $\mu$ m and (B) 5-30 volume% whiskers having diameter 0.3-1  $\mu$ m, length 10-70  $\mu$ m, and **aspect ratio** 10-100, with A + B content being 10-70 volume%. A photocurable resin was prepared by mixing a reaction product from IPDI, morpholineacrylamide, glycerin monomethacrylate monoacrylate, and pentaerythritol propoxylate, with morpholineacrylamide, dicyclopentadienyl diacrylate, Irgacure 184, treated with a leveling agent, silane coupler-treated alumina, silane coupler-treated Al borate whiskers (Alborex YS-4), and used for making tridimensional molding by laser light irradiation with irradiation time 2 min/layer, with post UV-curing for 10 min to obtain a dumbbell specimen with tensile strength 8.3 kg/mm<sup>2</sup>, elongation

1.3%, bending strength 13.8 kg/mm<sup>2</sup>, flexural modulus 2283 kg/mm<sup>2</sup>, heat distortion temperature ≥300°, and volume shrinkage 1.8% during photocuring.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 18 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:406741 CAPLUS

DOCUMENT NUMBER: 129:112281

TITLE: Size control of  $\alpha$ - alumina particles synthesized in 1,4-butanediol solution by  $\alpha$ -alumina and  $\alpha$ -hematite seeding

AUTHOR(S): Bell, Nelson S.; Cho, Seung-Beom; Adair, James H.

CORPORATE SOURCE: Department of Materials Science and Engineering, University of Florida, Gainesville, FL, 32611, USA

SOURCE: Journal of the American Ceramic Society (1998), 81(6), 1411-1420

CODEN: JACTAW; ISSN: 0002-7820

PUBLISHER: American Ceramic Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effects of seed particles and shear rate on the size and shape of  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles synthesized in glyco thermal conditions are described. It is proposed that seed particles provide a low-energy, epitaxial surface in solution to lower the overall surface energy contribution to the nucleation barrier, thus increasing nucleation frequency and subsequently reducing the particle size of hexagonal  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> platelets or polyhedra, depending on synthesis conditions, in 1,4-butanediol solution. Seeds have a significant effect on the size of hexagonal  $\alpha$ -Al<sub>2</sub>O<sub>3</sub>, platelets in samples with high seed concentration. The particle size of  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> platelets decreases from 3 to 4  $\mu$ m to 100 to 200 nm by increasing the number concentration of seeds. In the case of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> seeding, the effect of seeding on the size of  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> particles closely resembles the effects obtained with  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> seeding. Regardless of seed concentration, high stirring rate promotes the formation of hexagonal platelets with high aspect ratio, whereas medium and low stirring rates promote the formation of elongated platelets and polyhedra with 14 faces, resp.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 19 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:224125 CAPLUS

DOCUMENT NUMBER: 126:213977

TITLE: Manufacture of alumina particles having high dispersibility and plasticity

INVENTOR(S): Fukuda, Takeshi; Shido, Ryuichi

PATENT ASSIGNEE(S): YKK Corporation, Japan; Kinsei Matec Co., Ltd.

SOURCE: Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 761600	A1	19970312	EP 1996-111646	19960718
EP 761600	B1	20050112		
R: DE, FR, GB				
JP 09059018	A2	19970304	JP 1995-237882	19950824
JP 09142836	A2	19970603	JP 1995-322411	19951117
PRIORITY APPLN. INFO.:				
			JP 1995-237882	A 19950824
			JP 1995-322411	A 19951117

AB Alumina particles having high dispersibility and plasticity and having phosphoric acid or phosphate at least on the surface are manufactured by adding a crystallization inhibitor containing at least phosphate ion to aluminum hydroxide or alumina hydrate having particle size of 0.1-5.0  $\mu$ m and then conducting a hydrothermal synthesis treatment at

≥350° under a pressure of 50-200 atmospheric and at a temperature elevation rate of (0.3-5) °C/min. The products are suitable for use as a material for pigments for paints, precision abrasives or ceramics. The amount of the phosphate ion to be added is (3.0-25)+10-3 mol per mol of aluminum hydroxide or alumina hydrate. The obtained alumina is α-alumina hexagonal plate single crystal having a particle size of 0.2-15 μm, an **aspect ratio** of 15-50.

L6 ANSWER 20 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:731638 CAPLUS

DOCUMENT NUMBER: 126:75541

TITLE: The effect of alumina particulate morphology on the properties of reinforced polypropylene and poly(ethylene-co-vinyl acetate) composite  
AUTHOR(S): Prachar, Michael Jiri; Hay, James; Ponton, Clive  
CORPORATE SOURCE: School Metallurgy Materials, Univ. Birmingham, Birmingham, B15 2TT, UK

SOURCE: Angewandte Makromolekulare Chemie (1996), 242, 37-45  
CODEN: ANMCBO; ISSN: 0003-3146

PUBLISHER: Huethig & Wepf

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effect of **alumina particles** on a thermoplastic matrix is investigated, in particular the effect which altering of particle size and morphol. has on the mech. properties. Different grades of alumina are used in 2 thermoplastic matrixes, namely polypropylene and EVA. Investigations showed that optimum properties were achieved with the alumina of smallest particle size and lowest **aspect ratio**. Preliminary work has also been performed on the use of silane coupling agents and they have proved effective in increasing the tensile properties of the composites.

L6 ANSWER 21 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:291010 CAPLUS

DOCUMENT NUMBER: 124:323441

TITLE: Effects of agglomerate properties on ejection profiles and overall shape of alumina compacts

AUTHOR(S): Oezkan, N.; Briscoe, B. J.; Aydin, i.

CORPORATE SOURCE: Department of Chemical Engineering, Imperial College, London, SW7 2BY, UK

SOURCE: Advances in Science and Technology (Faenza, Italy) (1995), 3C(Ceramics: Charting the Future), 1667-1674  
CODEN: ASETES

PUBLISHER: Techna

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cylindrical green compacts of two com. aluminas, designated as MX3 and AKP-30, were prepared using a dry die pressing consolidation technique and subsequently sintered to produce nearly fully dense bodies. Due to the d. distributions invariably present in the green compacts, the sintered compacts are found not to be the geometrically scaled replicas of the green compacts, and there are deviations from the perfect cylindrical geometry in the dense body. The extent of these deviations is shown to be dependent on the **aspect ratio**, the state of die wall lubrication, and the state of agglomeration. The effects of the aforementioned parameters on the ejection profiles and the overall shape of the compacts are reported. It has been found that the extent of the overall shape deviations, from the perfect cylindrical geometry, increases with increasing **aspect ratio**. The extent of the deviations in the compacts, prepared using unlubricated dies, is greater than that in the compacts prepared using lubricated dies. The agglomerate properties (binder type, binder content, and moisture content) have a strong effect on the ejection pressure of the green compacts and also on the overall shape of the sintered compacts.

L6 ANSWER 22 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:863908 CAPLUS

DOCUMENT NUMBER: 123:294150

TITLE: Morphological control of α-Al<sub>2</sub>O<sub>3</sub> particles

precipitated from 1,4-butanediol solution  
AUTHOR(S): Cho, Seung-Beom; Venigalla, Sridhar; Adair, James H.  
CORPORATE SOURCE: Department of Materials Science and Engineering,  
University of Florida, Gainesville, FL, 32611, USA  
SOURCE: Ceramic Transactions (1995), 54, 139-50  
CODEN: CETREW; ISSN: 1042-1122  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Reaction conditions to control the particle shape of  $\alpha$ -alumina are described. Synthesis variables such as reaction time, stirring speed, amount of methanol, and solid loading have an effect on the size and shape of  $\alpha$ -alumina synthesized in 1,4-butanediol solns. The  $\alpha$ -alumina synthesized at longer reaction times have larger size ( $\approx 2-3\ \mu\text{m}$ ) and habit modifications on the edges of the plate-shaped particles. A high stirring speed promotes the formation of large hexagonal platelets ( $\approx 6-7\ \mu\text{m}$ ) with high **aspect ratio** whereas a low stirring speed promotes the formation of more isotropic polyhedra with 14 faces ( $\approx 2-3\ \mu\text{m}$ ). Also,  $\alpha$ -**alumina particles** synthesized with methanol have a hexagonal platy habit in the form of a rhombic dodecahedra whereas  $\alpha$ -**alumina particles** synthesized without methanol have near-uniform hexagonal plate shapes. Finally, increasing the solid loading changes the particle size of  $\alpha$ -alumina from  $2-3\ \mu\text{m}$  to  $6-7\ \mu\text{m}$ . The results of this study indicate that it is possible to control the morphol. of synthesized  $\alpha$ -**alumina particles** by controlling the process conditions and theor. predictions of crystal shapes can be reconciled to the morphol. of the exptl. synthesized particles.

L6 ANSWER 23 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:376895 CAPLUS  
DOCUMENT NUMBER: 122:140348  
TITLE: Calculated elastic constants of alumina-mullite ceramic particles  
AUTHOR(S): Ledbetter, H.; Dunn, M.; Couper, M.  
CORPORATE SOURCE: Natl. Inst. Standards Technology, Boulder, CO, 80303, USA  
SOURCE: Journal of Materials Science (1995), 30(3), 639-42  
CODEN: JMTSAS; ISSN: 0022-2461  
PUBLISHER: Chapman & Hall  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Using two theor. models, the isotropic elastic constns. of an alumina-mullite ceramic composite were estimated. The alumina phase, 20% by volume, consisted of brick-shaped particles with a 4:1 **aspect ratio** embedded in a mullite matrix. Alumina elastic-constant values were taken from the literature, and the mullite elastic constns. were measured using a megahertz-frequency pulse-echo method. The two theor. models, Datta-Ledbetter and Mori-Tanaka, proceed from very different viewpoints. The Datta-Ledbetter model uses the long-wavelength limit of a scattered plane wave ensemble-average approach. The model ests. the speed of a plane harmonic wave, avgs. the scattered field by the Waterman-Truell procedure and uses Lax's quasicryst. approximation to sum over pairs. The Mori-Tanaka method proceeds by estimating the average matrix stress in a material containing ellipsoidal inclusions. For randomly oriented ellipsoids, it extends Eshelby's solution for a single ellipsoidal inclusion. Both models lack adjustable parameters. Surprisingly, the two models with different phys. approaches give practically identical results.

L6 ANSWER 24 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:328650 CAPLUS  
DOCUMENT NUMBER: 120:328650  
TITLE: Fracture characteristics of a particulate-reinforced metal matrix composite  
AUTHOR(S): Hadianfard, M. J.; Healy, J.; Mai, Y. W.  
CORPORATE SOURCE: Cent. Adv. Mater. Technol., Univ. Sydney, 2006, Australia  
SOURCE: Journal of Materials Science (1994), 29(9), 2321-7  
CODEN: JMTSAS; ISSN: 0022-2461  
DOCUMENT TYPE: Journal



LANGUAGE: English

AB Fracture of an Al-Mg-Si alloy 6061 with 20% angular **alumina particles** was studied. Fracture toughness tests were conducted on compact tension peak-aged specimens. The interaction of the reinforcement phase with the crack was investigated by optical microscopy and SEM, both on the surface and in the mid-thickness of the fractured specimen. Particle size and **aspect ratio** determine the likelihood of fracture. Some differences in the failure mechanisms have been observed between the mid-thickness and the surface of the specimen because of the difference between plane strain and plane stress fractures.

L6 ANSWER 25 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:477542 CAPLUS

DOCUMENT NUMBER: 119:77542

TITLE: Cavity formation during tensile straining of particulate and short fiber metal matrix composites

AUTHOR(S): Whitehouse, A. F.; Clyne, T. W.

CORPORATE SOURCE: Dep. Mater. Sci. Metall., Univ. Cambridge, Cambridge, CB2 3QZ, UK

SOURCE: Acta Metallurgica et Materialia (1993), 41(6), 1701-11  
CODEN: AMATEB; ISSN: 0956-7151

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The formation of cavities in com. pure aluminum composites, made by both powder and casting routes and reinforced with alumina (short fibers, angular particles and spherical particles), has been monitored using periodic d. measurements during tensile testing and microstructural exams. Stable cavities always form well before final failure, usually adjacent to the reinforcement, particularly when it is elongated in the loading direction and has a relatively flat surface normal to the stress axis. Sharp corners are not favored cavitation sites and cavities can form at spherical particles, although the incidence is somewhat less than for angular particles. Cavitation occurred earlier for higher reinforcement contents and with powder-route, as opposed to cast material, although the void contents and composite strains at failure were similar. A simple geometrical model is proposed, allowing prediction of the failure strain as a function of the reinforcement content, **aspect ratio** and strain to failure of the unreinforced matrix. The data presented are in good agreement with predictions from this model.

L6 ANSWER 26 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:428413 CAPLUS

DOCUMENT NUMBER: 117:28413

TITLE: Biaxially oriented polyester films with good sliding property and wear resistance

INVENTOR(S): Nishino, Satoshi; Abe, Koichi; Minamizawa, Hidehito

PATENT ASSIGNEE(S): Toray K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04053742	A2	19920221	JP 1990-163110	19900621
JP 2765196	B2	19980611		

PRIORITY APPLN. INFO.: JP 1990-163110 19900621

AB The title films, useful for recording tapes, etc. structurally have  $\geq 3$  layers, and have  $\geq 1$  side bearing outermost layer (L1) containing spherical organic particles to 0.01-2.0% and having particle size (s1) 0.1-1.5  $\mu\text{m}$ , and the L1 has thickness (t1) such that t1 is between (0.20-5.0) + s1. Thus, blending 20 parts pellets (A) of PET containing 1.0% poly(acrylic acid)-coated ethylstyrene-divinylbenzene copolymer particles (**aspect ratio** 1.06, s1 0.60  $\mu\text{m}$ ) with 30 parts PET pellets containing 1.0%  $\gamma$ -type **alumina particles** (Moss hardness 7.5), and 50 parts original PET pellets gave a composition which was extruded as 2 outer layers on a core layer from a 98:2 PET-A blend. The 3-layer film (.apprx.150  $\mu\text{m}$ ) was statically

caught at draft ratio 6.7, biaxially drawn, and heat set to give oriented film with total thickness 12  $\mu\text{m}$ , the t1 of 1.6 + s1, and good slideability and wear resistance.

L6 ANSWER 27 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:65584 CAPLUS  
DOCUMENT NUMBER: 116:65584  
TITLE: Fiber-reinforced composites with alumina and silicon carbide  
INVENTOR(S): Hayashi, Katsura; Sakagami, Katsumi  
PATENT ASSIGNEE(S): Kyocera Corp., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03242370	A2	19911029	JP 1990-36439	19900217

PRIORITY APPLN. INFO.: JP 1990-36439 19900217

AB The composites from 3-50 volume% SiC and 50-97 volume% Al<sub>2</sub>O<sub>3</sub> contain  $\geq 5$  volume% dispersed acicular Al<sub>2</sub>O<sub>3</sub> particles with **aspect ratio**  $\geq 1.5$ , and optionally 0.02-8 weight% of MgO, SiO<sub>2</sub>, and/or IIIB metal oxides. The composites have high toughness, strength, and resistance to Fe oxides and wear, and are especially useful for tools and mech. parts.

L6 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1986:538537 CAPLUS  
DOCUMENT NUMBER: 105:138537  
TITLE: Strengthening of alumina  
AUTHOR(S): Uchiyama, Tetsuo; Niihara, Koichi; Hirai, Toshio  
CORPORATE SOURCE: Riken Corp., Kumagaya, 360, Japan  
SOURCE: Yogyo Kyokaishi (1986), 94(8), 756-60  
CODEN: YGKSA4; ISSN: 0372-7718  
DOCUMENT TYPE: Journal  
LANGUAGE: Japanese

AB Relatively large Al<sub>2</sub>O<sub>3</sub> disk particles (16, 41  $\mu$ ) with high **aspect ratios** (5-20) were incorporated into a fine-grain Al<sub>2</sub>O<sub>3</sub> matrix (.apprx.1  $\mu$ ) in order to improve the mech. properties of sintered Al<sub>2</sub>O<sub>3</sub>. The flexural strength depends on the disk size and the microstructure of the composites. For a composite containing 5 volume% 16  $\mu$  Al<sub>2</sub>O<sub>3</sub> disk particles, the maximum flexural strength was 604 MPa, 28.5% larger than that without the disk particles.

L6 ANSWER 29 OF 29 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:207834 CAPLUS  
DOCUMENT NUMBER: 102:207834  
TITLE: Erosion debris particle observations and the micromachining mechanism of erosion  
AUTHOR(S): Kosel, T. H.; Mao, Z. Y.; Prasad, S. V.  
CORPORATE SOURCE: Univ. Notre Dame, Notre Dame, IN, 46556, USA  
SOURCE: ASLE Transactions (1985), 28(2), 268-76  
CODEN: ASLTA2; ISSN: 0569-8197  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Erosion debris particles produced by **alumina particle** impact erosion of nickel 200 [12671-92-0] and ferritic stainless steel [96513-09-6] were investigated by SEM. The **aspect ratios** and shapes of erosion debris particles formed at angles of incidence below the peak erosion angle were generally consistent with the dimensions of impact craters formed on the ended surface and with the hypothesis that they were formed by micromachining. However, most of the debris particles did not exhibit characteristic lamellas because the surface from which they are formed is rough even as a scale similar to the debris particle size. This behavior is not true in abrasion. Micromachining chips formed from such a surface are expected to have surface which obscure the lamellas. However, some chips are expected to

come from the few relatively smooth areas of the surface and show lamellas. Examples of such chips were indeed found, and micrographs of the chips were nearly indistinguishable from those of micromachining chips formed by abrasion or scratch tests. Micromachining is an operative mechanism of erosion occurring at low incidence angles. Debris particles formed at higher angles are generally more platelike.

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(FILE 'HOME' ENTERED AT 12:53:55 ON 27 FEB 2005)

FILE 'CAPLUS' ENTERED AT 12:56:28 ON 27 FEB 2005

L1 3642 S ALUMINA PARTICLE?  
L2 150881 S PHOSPHATE ION OR PHOSPHORIC OR P2O5  
L3 30 S L1 AND L2  
L4 30 DUP REM L3 (0 DUPLICATES REMOVED)  
L5 22070 S ASPECT RATIO  
L6 29 S L1 AND L5  
L7 2 S L6 AND L2  
L8 0 S ASPECT RATION GREATER THAN 50  
L9 19 S ASPECT RATIO HIGHER

=> s L2 and L6

L10 2 L2 AND L6

=> d 1-2 L10

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:780429 CAPLUS

DN 135:305829

TI Flake-like **alpha-alumina particles** and their  
production

IN Fukuda, Takeshi; Shido, Ryuichi

PA YKK Corporation, Japan

SO Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1148028	A2	20011024	EP 2001-109347	20010412
	EP 1148028	A3	20040414		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001302452	A2	20011031	JP 2000-114625	20000417
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	JP 2001-40237	A	20010216		

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:224125 CAPLUS

DN 126:213977

TI Manufacture of **alumina particles** having high  
dispersibility and plasticity

IN Fukuda, Takeshi; Shido, Ryuichi

PA YKK Corporation, Japan; Kinsei Matec Co., Ltd.

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 761600	A1	19970312	EP 1996-111646	19960718
	EP 761600	B1	20050112		
	R: DE, FR, GB				
	JP 09059018	A2	19970304	JP 1995-237882	19950824

JP 09142836	A2	19970603	JP 1995-322411	19951117
PRAI JP 1995-237882	A	19950824		
JP 1995-322411	A	19951117		

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ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

165.59

166.43

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-22.63

-22.63

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